MRITool Download and Installation Guide*

v. 1.0 – December 1999

At present, MRITool has been tested on Unix systems (ALPHA and SUN) and on Windows platform (WindowsNT, Windows95 and Windows98). The source files are the same (compressed in different forms for the different systems), while the data files for the demos are different, because they are in platform-dependent binary format (MATLAB MAT-files). The toolbox should work under MacOS 8.x too, but we haven’t tested it yet and data files are not available.

1 Download

All the MRITool distributions can be downloaded from its homepage, reachable from the web site http://www.unife.it/AnNum97/software.htm. The files are compressed in sources and data archives: the mritool_src.tar.gz and mritool_src.zip archives contains all the scripts and functions M-code, in the predefined directory tree, while the test problems data can be downloaded separately because of the large files size. The latter are five archives: one is for a “simulated” test problem, while the other contain real-world data from human fMRI brain acquisition. However, it is possible to download all the data files at once for a given platform, compressed in the archives all_seq.tar.gz or all_seq.zip.

2 Installation

Create a new directory, say mydir, or choose an existing one where the MRITool directory tree will be rooted, position yourself in it and download or move there the compressed files. Then one of the following methods will be appropriate for your platform:

Unix. To install the scripts and functions sources (M-files) type these commands at the shell prompt:

```
gunzip mritool_src.tar.gz
```
```
tar -xvf mritool_src.tar
```

Possibly, your tar command support the “z” option (such as the GNU tar) so that you will obtain the same result with the single command:

```
tar -xvzf mritool_src.tar.gz
```

If you also downloaded one or more test problems, repeat the same commands on the related files.

Windows. To install the scripts and functions sources (M-files) you should use one of the Windows zip/unzip software, such as pkzip or WinZip: open the archive mritool_src.zip by double clicking on its icon or from the program’s “Open” menu, then extract all files in the current directory by setting the “Use folder names” option on.

If you also downloaded one or more test problem files, you need to extract the related contents with a similar procedure, but specifying the target directory mritool\files\input.

Generally, the toolbox subdirectory of the main MATLAB directory is a good place where to put MRITool.

3 Getting started with MRITool

To use the MRITool package, MATLAB 5.2 R10 or higher is needed. In order to start MRITool, you just run it from its main directory, say mydir/mritool, by giving at the MATLAB prompt the commands

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>> cd mydir/mritool  ENTER
>> mritool  ENTER

The script mritool.m will add the MRTTool directory tree in front of your MATLAB path for the current work session. Alternatively, you can choose to permanently add the MRTTool path to your MATLAB path, by using the MATLAB path browser or your startup.m file and by giving absolute directory paths. In this case you will be able to run MRTTool from any directory, but remember to accordingly modify the mritool.m script by

- resetting the appropriate path variables,
- comment out the \addpath(...) command.

Remark. The very first time you will run MRTTool, it will generate in its bin subdirectory the "p-coded" files appropriate for your platform. These are the "precompiled binary" versions of the M-files and are intended to speed-up construction and execution of all the GUIs (see the MATLAB manuals for a more detailed explanation, or type help pcode at the MATLAB prompt, or open the related online documentation). This will not improve the time for images reconstruction. If you will alter one or more MRTTool functions, you will need to replace the corresponding p-coded file in the bin MRTTool subdirectory in order the changes will take place. If you delete all the P-files in the bin subdirectory (leaving the only contents.m file there), then the next time you will run MRTTool it will generate anew the updated P-code.

4 Getting help

The help of MRTTool can be viewed from the graphical interface, by clicking the HELP button or by choosing the Help option from the menubar: if you have defined a default web browser, MATLAB will open it to show you the related help file, otherwise the standard MATLAB help window will be used.

From the MATLAB command window, you can get help for each individual function as well as for each MRTTool predefined directory. For example, if you want to get help for the keyhole function, you just type at the MATLAB prompt

    >> help keyhole  ENTER

In the current version, only a low-level help is provided, describing the main features of the MRTTool GUI.

5 Upgrades, updates and bugs report

This is a research software and the authors will appreciate any comment and bugs report: please, refer to the MRTTool web homepage for updated contact info. Furthermore, any package upgrade/update will be notify there, together with the possible addition of new data files.